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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/804,374  
Filing Date: March 19, 2004  
Appellant(s): KUAN ET AL.

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Alan K. Stewart  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 04/30/2008 appealing from the Office action mailed 06/14/2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,400,169	Hembree	6-2002
5,955,888	Frederickson et al.	9-1999

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 6-8 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by **Hembree (US 6,400,169)**.

As to claim 6, **Hembree** discloses in Figures 7A and 7B a system (90) for testing a singulated semiconductor device (10) comprising a socket (92) for receiving a DUT (10), the socket having pins (96) with ends (108) for making electrical contact with the DUT (10) and opposing ends (104) for making contact with a test board (98), the test board (98) adjoining the socket (92), the test board (98) having pin receptacles (106) for receiving the opposing ends (104) of the pins (96); and measuring means (100) operably coupled to the test board pins receptacles (106) for measuring electrical signals in the DUT(10).

As to claims 7 and 8, **Hembree** discloses in Figures 7A and 7B the receptacles (106) are generally conical basin for receiving the pin (96 and 104).

As to claim 12, **Hembree** discloses in Figures 7A and 7B a test board (98) for use in association with semiconductor device automatic test equipment (90, test

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equipment 90 is considered to be automatic because is connect to test circuitry which is sending signals to test device 10 and no interface of a human operator is needed to perform the tests) and a socket (92), the socket having pins (96) and adapted for receiving a device under test (10), the test board comprising a contact area (area where receptacles 106 are situated) for operably coupling a pin (96 and 104) to the ATE (90); a pin receptacle (106) on the contact area for receiving a pin (96 and 104), for thereby making staunch electrical contact between the pin (96 and 104) and contact point (middle part of receptacle 106).

As to claims 13 and 14, **Hembree** discloses in Figures 7A and 7B the receptacles (106) are generally conical basin for receiving the pin (96 and 104).

3. Claims 6-8 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by **Frederickson et al. (US 5,955,888)**.

As to claim 6, **Frederickson et al.** discloses in Figures 6A, 6B and 7A a system (600) for testing a singulated semiconductor device (100) comprising a socket (650,646,640,670) for receiving a DUT (100), the socket having pins (620) with ends (624,626) for making electrical contact with the DUT (100) and opposing ends (622) for making contact with a test board (610), the test board (610) adjoining the socket (650,646,640,670), the test board (610) having pin receptacles (616,618) for receiving the opposing ends (622) of the pins (620); and measuring means (616, Col. 5 lns 53-60) operably coupled to the test board pins receptacles (616,618) for measuring electrical signals in the DUT(100).

As to claims 7 and 8, ***Frederickson et al.*** discloses in Figures 6A, 6B and 7A the receptacles (616,618) are generally conical basin for receiving the pin (620 and 622).

As to claim 12, ***Frederickson et al.*** discloses in Figures 6A, 6B and 7A a test board (610) for use in association with semiconductor device automatic test equipment (616, Col. 5 Ins 53-60) and a socket (650,646,640,670), the socket having pins (620) and adapted for receiving a device under test (100), the test board (610) comprising a contact area (area where receptacles 618 are situated) for operably coupling a pin (620 and 622) to the ATE (616, Col. 5 Ins 53-60); a pin receptacle (616,618) on the contact area for receiving a pin (620 and 622), for thereby making staunch electrical contact between the pin (620 and 622) and contact point (middle part of receptacle 616,618).

As to claims 13 and 14, ***Frederickson et al.*** discloses in Figures 6A, 6B and 7A the receptacles (616,618) are generally conical basin for receiving the pin (620 and 622).

#### **(10) Response to Argument**

Appellant's arguments with regard to the rejection under 35 U.S.C. 102(b) have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

Appellant argues that the Hembree patent No. 6,400,169 does not show pin receptacles in the test board. 106 in U.S. Patent No. 6,400,169 does not disclose a pin receptacle, Figure 7B only shows a line going across the bottom of Figure 7B at 106,

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does not show, teach or suggest a pin receptacle receiving the opposing end of a pin. The examiner disagrees, Hembree patent No. 6,400,169 discloses in Figure 7B a pin (which is contact 96) having one end (108) for making electrical contact with a device under test (10) and having an opposing end (104) to be received by pin receptacle (receptacle 106 is receiving, containing, engaging and/or fitting opposing end of the pin) located in test board (test board 98 is in communication with test circuitry 100 to provide test signals to and from the device under test 10) as shown in Figure 7B. In addition, referring to Column 9 lines 54-56 of Hembree, patent No. 6,400,169 literally recites: "In addition, the contacts **96** include terminal segments **104** that electrically engage electrical *receptacles* **106** in the test board 98.". Therefore, the Hembree patent No. 6,400,169 show, teach and suggest a pin receptacle in the test board receiving the opposing end of a pin, based on the arguments and the evidence presented above.

Appellant argues that the Frederickson et al. patent No. 5,955,888 does not show pin receptacles in the test board, 618 in U.S. Patent No. 5,955,888 is not a pin receptacle, it is a solder, U.S. Patent No. 5,955,888 does not disclose a "socket having pins with ends for making electrical contact with the DUT and opposing ends for making contact with a test board, U.S. Patent No. 5,955,888 does not disclose a "test board having pin receptacles for receiving the opposing ends of the pins". The examiner disagrees, Frederickson et al. patent No. 5,955,888 discloses in Figure 6B pin receptacles (receptacle formed by 616 and 618 is for receiving, containing, engaging and/or fitting one end of a pin) in the test board (test board 610 is in communication with a test area to carry test signals to and from the device under test 100), as shown in

Figure 6B. Frederickson et al. patent No. 5,955,888 discloses in Figure 6B a socket (socket formed by elements 646,640,650 and 670 for receiving the device under test 100 and having pins 620) having pins (pogo pins 620) with ends (plunger 624 with tip 626 of pogo pin 620) for making electrical contact with the DUT (device under test 100 as shown in Figure 6B) and opposing ends (lower part 622 close to receptacle 616 and 618) for making contact with a test board (test board 610 is in communication with a test area to carry test signals to and from the device under test 100). Frederickson et al. patent No. 5,955,888 discloses in Figure 6B a test board (test board 610) having pin receptacles pin receptacles (receptacle formed by 616 and 618 is for receiving, containing, engaging and/or fitting one end of a pin) for receiving the opposing ends (lower part 622 close to receptacle 616 and 618) of the pins (pogo pins 620). In addition, referring to Column 6 lines 34-36 of Frederickson et al. patent No. 5,955,888 literally recites: "Each barrel **622** is received in a *receptacle mounted in a conductive via 616* formed in a predetermined area of PCB **610**, ...". Therefore, the Frederickson et al. patent No. 5,955,888 show, teach and suggest pin receptacles in the test board receiving the opposing end of a pin, based on the arguments and the evidence presented above.

Appellant argues that the Frederickson et al. patent No. 5,955,888 discloses a pogo pin permanently attached to a printed circuit board 610, not a socket having pins with ends for making electrical contact with the DUT and opposing ends for making contact with a test board. (See Col. 6, lines 31-39). The examiner disagrees, Frederickson et al. patent No. 5,955,888 discloses in Figure 6B a socket (socket formed



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by elements 646,640,650 and 670 for receiving the device under test 100 and having pins 620) having pins (pogo pins 620) with ends (plunger 624 with tip 626 of pogo pin 620) for making electrical contact with the DUT (device under test 100 as shown in Figure 6B) and opposing ends (lower part 622 close to receptacle 616 and 618) for making contact with a test board (test board 610 is in communication with a test area to carry test signals to and from the device under test 100). Limitations in claims 6 and 12 are not limiting how the pins make contact with the test board, can be physically permanent or temporary. In addition, referring to Column 6 lines 37-39 of Frederickson et al., patent No. 5,955,888 literally recites: "...each pogo pin **620** is fixedly adhered to the lower surface **614** of PCB **610** by solder **618** or another conductive adhesive, or is press-fit into the PCB.". This means that pogo pin 620 can be permanently attached or temporary attached to printed circuit board 610. Therefore, the Frederickson et al., patent No. 5,955,888 show, teach and suggest a socket having pins with ends for making electrical contact with the DUT and opposing ends for making contact with a test board, based on the arguments and the evidence presented above.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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/Arleen M Vazquez/

Examiner, Art Unit 2829

September 4, 2008

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